

PATENT APP. NO. 10/618,755
ATTY. DOCKET NO. 53394.000712
RESPONSE TO APRIL 8, 2005 OFFICE ACTION

II. IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An absorbent article comprising:

a topsheet;

a backsheet; ;

an absorbent core disposed between the topsheet and the backsheet;

wherein the absorbent article has a thermal resistance (clo) of less than about 1.7 watts/m², as measured in a Thermolabo apparatus.

2. (Original) The absorbent article of claim 1, whereby the topsheet and the backsheet form a first waist region, a second waist region longitudinally opposite the first waist region, and a crotch region there between, and the absorbent article further comprises

at least one fastening element attached to a lateral edge of the first waist region; and one or more target devices attached to the article in the second waist region, where at least one fastening element and the one or more target devices are capable of attaching to one another, the one or more target devices being located so that the first waist region and second waist region of the garment may be joined to one another to secure the garment on a wearer.

3. (Original) The absorbent article of claim 1, further comprising elastic leg gathers comprising one or more elastic materials disposed adjacent a lateral edge of the crotch region, and standing leg gathers disposed on the topsheet adjacent a lateral edge of the crotch region.

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4. (Original) The absorbent article of claim 2, wherein the at least one fastening element comprises a hook portion of a hook and loop fastener and the one or more target devices comprise the loop portion of a hook and loop fastener.
5. (Original) The absorbent article of claim 2, wherein the at least one fastening element is an adhesive tape and the one or more target devices comprise a tape receiving surface.
6. (Original) The absorbent article of claim 2, wherein the at least one fastening element is comprised of a pair of laterally extending tabs disposed on the lateral edges of the first waist region, whereby the laterally extending tabs each include at least one fastening element.
7. (Original) The absorbent article of claim 1, further comprising a fluid acquisition layer disposed between the topsheet and the backsheet.
8. (Original) The absorbent article of claim 1, further comprising a distribution layer disposed between the topsheet and the backsheet.
9. (Original) The absorbent article of claim 1, further comprising a wicking layer disposed between the topsheet and the backsheet.
10. (Original) The absorbent article of claim 1, further comprising a storage layer disposed between the topsheet and the backsheet.
11. (Original) The absorbent article of claim 1, further comprising a fragmented layer disposed between the topsheet and the backsheet.
12. (Original) The absorbent article of claim 1, further comprising a combination of a wicking layer and a distribution layer disposed between the topsheet and the backsheet.
13. (Original) The absorbent article of claim 1, wherein the absorbent core comprises:

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an upper layer;

a lower layer; and

a central fibrous layer disposed between the upper layer and the lower layer, the central fibrous layer comprising a mixture of at least a fibrous material and superabsorbent polymer (SAP).

14. (Original) The absorbent article of claim 1, wherein the absorbent core has a density within the range of from about 0.05 to about 0.45 g/cm³.
15. (Original) The absorbent article of claim 1, wherein the absorbent core has a basis weight within the range of from about 650 to about 1350 gsm.
16. (Original) The absorbent article of claim 13, wherein the SAP is selected from the group consisting of a water swellable polymer of water soluble acrylic or vinyl monomers crosslinked with a polyfunctional reactant, a starch modified polyacrylic acid, a hydrolyzed polyacrylonitrile, alkali metal salts of hydrolyzed polyacrylonitrile, and mixtures thereof.
17. (Original) The absorbent article of claim 16, wherein the SAP is a starch grafted polyacrylate sodium salt.
18. (Original) The absorbent article of claim 13, wherein the fibrous material is selected from the group consisting of a crimped tow of cellulose acetate or polyester, a low-density roll good, a carded web, and mixtures or combinations thereof.
19. (Original) The absorbent article of claim 18, wherein the absorbent core further comprises from about 1-5% of a thermally bondable fiber.
20. (Original) The absorbent article of claim 18, wherein the fibrous material is a crimped tow of cellulose acetate.

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21. (Original) The absorbent article of claim 13, wherein the central fibrous layer comprises from about 50% to about 95% by weight super absorbent polymer (SAP), and has a SAP efficiency of at least 80%.
22. (Original) The absorbent article of claim 13, wherein the central fibrous layer further comprises particulate additives.
23. (Original) The absorbent article of claim 22, wherein the particulate additives comprise insoluble, hydrophilic polymers having particle diameters of 100 μm or less.
24. (Original) The absorbent article of claim 22, wherein the particulate additives are selected from the group consisting of potato, corn, wheat, and rice starches, and partially cooked or modified starches.
25. (Original) The absorbent article of claim 1, wherein the absorbent article has an intrinsic thermal resistance (Rcf) of less than about $0.25 \text{ }^{\circ}\text{C m}^2/\text{Watts}$, as measured on a 20 x 20 inch sample in a Thermolabo apparatus.
26. (Original) The absorbent article of claim 25, wherein Rcf is less than about $0.17 \text{ }^{\circ}\text{C m}^2/\text{Watts}$.
27. (Original) The absorbent article of claim 1, wherein the absorbent article has a clo of less than about 1.65 watts/ m^2 .
28. (Original) The absorbent article of claim 27, wherein the clo is less than about 1.40 watts/ m^2 .
29. (Original) The absorbent article of claim 1, wherein the absorbent core has a thickness within the range of from about to about 5 to about 20 mm.
30. (Original) A method of making an absorbent article comprising:
 - a) preparing a topsheet and a backsheet;

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b) preparing an absorbent core by dispersing superabsorbent polymer particles (SAP) within a fibrous matrix; and

c) disposing the absorbent laminate core between the topsheet and the backsheet,

wherein the absorbent article has a thermal resistance (clo) of less than about 1.7 watts/m², as measured in a Thermolabo apparatus.

31. (Original) The method of claim 30, wherein preparing the absorbent core comprises:

supplying an upper layer;

supplying a lower layer; and

preparing a central fibrous layer by intimately mixing at least a fibrous material and superabsorbent polymer (SAP) particles; and

disposing the central fibrous layer between the upper layer and the lower layer.

32. (Original) The method of claim 30, wherein the absorbent core has a density within the range of from about 0.05 to about 0.45 g/cm³.

33. (Original) The method of claim [[1]] 30, wherein the absorbent core has a basis weight within the range of from about 650 to about 1350 gsm.

34. (Original) The method of claim 31, wherein the SAP is selected from the group consisting of a water swellable polymer of water soluble acrylic or vinyl monomers crosslinked with a polyfunctional reactant, a starch modified polyacrylic acid, a hydrolyzed polyacrylonitrile, alkali metal salts of hydrolyzed polyacrylonitrile, and mixtures thereof.

35. (Original) The method of claim 34, wherein the SAP is a starch grafted polyacrylate sodium salt.

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36. (Original) The method of claim 31, wherein the fibrous material is selected from the group consisting of a crimped tow of cellulose acetate or polyester, a low-density roll good, a carded web, and mixtures or combinations thereof.

37. (Original) The method of claim 31, wherein the absorbent core further comprises from about 1-5% of a thermally bondable fiber.

38. (Original) The method of claim 36, wherein the fibrous material is a crimped tow of cellulose acetate.

39. (Original) The method of claim 31, wherein the central fibrous layer comprises from about 50% to about 95% by weight super absorbent polymer (SAP), and has a SAP efficiency of at least 80%.

40. (Original) The method of claim 31, wherein the central fibrous layer further comprises particulate additives.

41. (Original) The method of claim 40, wherein the particulate additives comprise insoluble, hydrophilic polymers having particle diameters of 100 μm or less.

42. (Original) The method of claim 41, wherein the particulate additives are selected from the group consisting of potato, corn, wheat, and rice starches, and partially cooked or modified starches.

43. (Original) The method of claim 30, wherein the absorbent article has an intrinsic thermal resistance (Rcf) of less than about $0.25 \text{ }^{\circ}\text{C m}^2/\text{Watts}$, when measured on a 20 x 20 inch sample in a Thermolabo apparatus.

44. (Original) The method of claim 43, wherein Rcf is less than about $0.19 \text{ }^{\circ}\text{C m}^2/\text{Watts}$.

45. (Original) The method of claim 30, wherein the absorbent article has a clo of less than about 1.65 watts/m².

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46. (Original) The method of claim 45, wherein the clo is less than about 1.40 watts/m².

47. (Original) The method of claim 30, wherein the absorbent core has a thickness within the range of from about 5 to 20 mm.

48. (Original) The method of claim 30, further comprising folding the absorbent core prior to disposing the core between the topsheet and the backsheet.

49. (Original) The method of claim 48, wherein the absorbent core is folded into a "C" configuration.